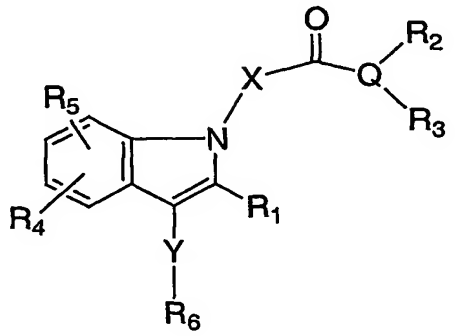
WHAT IS CLAIMED IS:

1. A compound of the structural formula I:



Formula I

or a pharmaceutically acceptable salt, enantiomer, diastereomer or mixture thereof: wherein,

R represents hydrogen, or C_{1-6} alkyl;

R_1 represents hydrogen or C_{1-6} alkyl, CF_3, C_{1-6} alkoxy, COR^c, CO_2R_8, $CONHCH_2CO_2R$, $N(R)_2$, said alkyl and alkoxy optionally substituted with 1-3 groups selected from R^b;

X represents $-(CHR_7)_p-$;

Y is not present, $-CO(CH_2)_n-$, or -CH(OR)-;

Q represents N, CR_Y, or O, wherein R_2 is absent when Q is O;

R_Y represents H, or C_{1-6} alkyl;

R_w represents H, C_{1-6} alkyl, $-C(O)C_{1-6}$ alkyl, $-C(O)OC_{1-6}$ alkyl, $-SO_2N(R)_2$, $-SO_2C_{1-6}$ alkyl, $-SO_2C_{6-10}$ aryl, NO_2, CN or $-C(O)N(R)_2$;

R_2 represents hydrogen, C_{1-10} alkyl, C_{1-6} alkylSR, $-(CH_2)_nO(CH_2)_mOR$, $-(CH_2)_nC_{1-6}$ alkoxy, $-(CH_2)_nC_{3-8}$ cycloalkyl, $-(CH_2)_nC_{3-10}$ heterocyclyl, $-(CH_2)_nC_{5-10}$ heteroaryl, $-N(R)_2$, -COOR, or $-(CH_2)_nC_{6-10}$ aryl, said alkyl, heterocyclyl, aryl or heteroaryl optionally substituted with 1-3 groups selected from R^a;

R_3 represents hydrogen, C_{1-10} alkyl, $-(CH_2)_nC_{3-8}$ cycloalkyl, $-(CH_2)_nC_{3-10}$ heterocyclyl, $-(CH_2)_nC_{5-10}$ heteroaryl, $-(CH_2)_nCOOR$, $-(CH_2)_nC_{6-10}$ aryl, $-(CH_2)_nNHR_8$, $-(CH_2)_nN(R)_2$, $-(CH_2)_nNHCOOR$, $-(CH_2)_nN(R_8)CO_2R$, $-(CH_2)_nN(R_8)COR$, $-(CH_2)_nNHCOR$, $-(CH_2)_nCONH(R_8)$, aryl, $-(CH_2)_nC_{1-6}$ alkoxy, CF_3, $-(CH_2)_nSO_2R$, $-(CH_2)_nSO_2N(R)_2$, $-(CH_2)_nCON(R)_2$, $-(CH_2)_nCONHC(R)_3$, $-(CH_2)_nCOR_8$, nitro, cyano or halogen, said alkyl, alkoxy, heterocyclyl, aryl or heteroaryl optionally substituted with 1-3 groups of R^a;

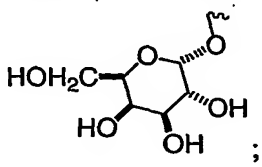
or, when Q is N, R_2 and R_3 taken together with the intervening N atom form a 4-10 membered heterocyclic carbon ring optionally interrupted by 1-2 atoms of O, S, C(O) or NR, and optionally having 1-4 double bonds, and optionally substituted by 1-3 groups selected from R^a;

R_4 and R_5 independently represent hydrogen, C_{1-6} alkoxy, OH, C_{1-6} alkyl, COOR, SO_3H, $O(CH_2)_nN(R)_2$, $O(CH_2)_nCO_2R$, C_{1-6} alkylcarbonyl, $S(O)qR_Y$, $OPO(OH)_2$, CF_3, $N(R)_2$, nitro, cyano or halogen;

R_6 represents hydrogen, C_{1-10} alkyl, $-(CH_2)_nC_{6-10}$ aryl, $-(CH_2)_nC_{5-10}$ heteroaryl, $(C_{6-10}$ aryl)O-, $-(CH_2)_nC_{3-10}$ heterocyclyl, $-(CH_2)_nC_{3-8}$ cycloalkyl, -COOR, $-C(O)CO_2R$, said aryl, heteroaryl, heterocyclyl and alkyl optionally substituted with 1-3 groups selected from R^a;

R_7 represents hydrogen, C_{1-6} alkyl, $-(CH_2)_nCOOR$ or $-(CH_2)_nN(R)_2$,

R_8 represents $-(CH_2)_nC_{3-8}$ cycloalkyl, $-(CH_2)_n$ 3-10 heterocyclyl, C_{1-6} alkoxy or $-(CH_2)_nC_{5-10}$ heteroaryl, said heterocyclyl, aryl or heteroaryl optionally substituted with 1-3 groups selected from R^a;

R^a represents F, Cl, Br, I, CF_3, $N(R)_2$, NO_2, CN, $-COR_8$, $-CONHR_8$, $-CON(R_8)_2$, $-O(CH_2)_nCOOR$, $-NH(CH_2)_nOR$, -COOR, $-OCF_3$, -NHCOR, $-SO_2R$, $-SO_2NR_2$, -SR, (C_1-C_6 alkyl)O-, $-(CH_2)_nO(CH_2)_mOR$, $-(CH_2)_nC_{1-6}$ alkoxy, (aryl)O-, -OH, (C_1-C_6 alkyl)$S(O)_m$-, H_2N-C(NH)-, (C_1-C_6 alkyl)C(O)-, (C_1-C_6 alkyl)OC(O)NH-, $-(C_1$-C_6 alkyl)$NR_w(CH_2)_nC_{3-10}$ heterocyclyl-R_w, $-(C_1$-C_6 alkyl)$O(CH_2)_nC_{3-10}$ heterocyclyl-R_w, $-(C_1$-C_6 alkyl)$S(CH_2)_nC_{3-10}$ heterocyclyl-R_w, $-(C_1$-C_6 alkyl)-C_{3-10} heterocyclyl-R_w, $-(CH_2)_n$-Z^1-C(=Z^2)$N(R)_2$, $-(C_{2-6}$ alkenyl)$NR_w(CH_2)_nC_{3-10}$ heterocyclyl-R_w, $-(C_{2-6}$ alkenyl)$O(CH_2)_nC_{3-10}$ heterocyclyl-R_w, $-(C_{2-6}$ alkenyl)$S(CH_2)_nC_{3-10}$ heterocyclyl-R_w, $-(C_{2-6}$ alkenyl)-C_{3-10} heterocyclyl-R_w, $-(C_{2-6}$ alkenyl)-Z^1-C(=Z^2)$N(R)_2$, $-(CH_2)_nSO_2R$, $-(CH_2)_nSO_3H$, $-(CH_2)_nPO(OR)_2$, cyclohexyl, morpholinyl, piperidyl, pyrrolidinyl, thiophenyl, phenyl, pyridyl, imidazolyl, oxazolyl, isoxazolyl, thiazolyl, thienyl, furyl, isothiazolyl, C_{2-6} alkenyl, and C_1-C_{10} alkyl, said alkyl, alkenyl, alkoxy, phenyl, pyridyl, imidazolyl, oxazolyl, isoxazolyl, thiazolyl, thienyl, furyl, and isothiazolyl optionally substituted with 1-3 groups selected from C_1-C_6 alkyl, CN, $(CH_2)_n$tetrazolyl, COOR, SO_3H, OH, F, Cl, Br, I, $-O(CH_2)_nCH(OH)CH_2SO_3H$, and  ;

Z^1 and Z^2 independently represents NR_w, O, CH_2, or S;

R^b represents C_{1-6} alkyl, -COOR, $-SO_3R$, $-OPO(OH)_2$, $-(CH_2)_nC_{6-10}$ aryl, or $-(CH_2)_nC_{5-10}$ heteroaryl;

R^c represents hydrogen, C_{1-6} alkyl, or $-(CH_2)_nC_{6-10}$ aryl;

m is 0-3;

n is 0-3;

q is 0-2; and

p is 0-1.

2. A compound of the structural formula I wherein X represents CHR_7.

3. A compound according to claim 1 wherein Y is $-CO(CH_2)_n$.

4. A compound according to claim 1 wherein Y is CH(OR).

5. A compound according to claim 1 wherein Q is N.

6. A compound according to claim 1 wherein Q is CH.

7. A compound according to claim 2 wherein R_6 is $(CH_2)_nC_{6-10}$ aryl, $(CH_2)_nC_{5-10}$ heteroaryl, $(CH_2)_nC_{3-10}$ heterocyclyl, or $(CH_2)_nC_{3-8}$ cycloalkyl, said aryl, heteroaryl, heterocyclyl and alkyl optionally substituted with 1 to 3 groups of R^a.

8. A compound according to claim 6 wherein R_7 is hydrogen or C_{1-6} alkyl.

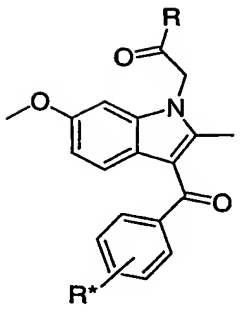
9. A compound according to claim 6 wherein Q is N and n is 0.

10. A compound according to claim 1 wherein Y is $-CO(CH_2)_n$, Q is N, n is 0, R_2 is C_{1-10} alkyl or C_{1-6} alkylOH and R_3 is $(CH_2)_nC_{3-10}$ heterocyclyl, said heterocyclyl and alkyl optionally substituted with 1 to 3 groups of R^a.

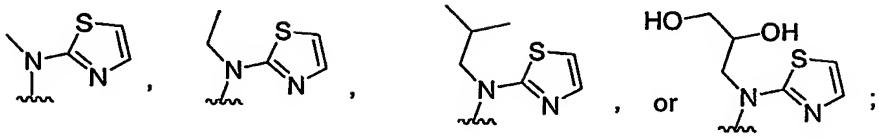
11. A compound selected from Tables 1 through 14 which is:

5

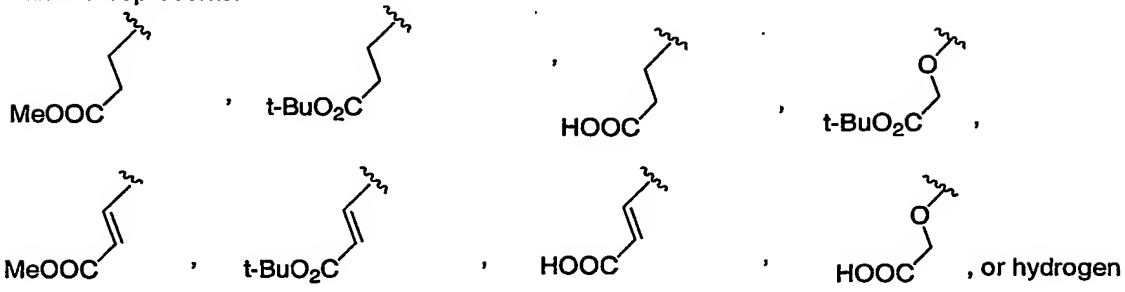
Table 1



Wherein R represents:



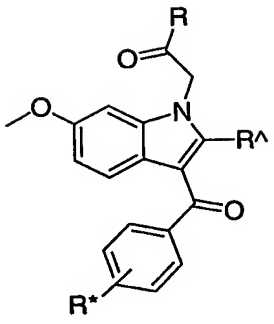
and R* represents:



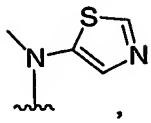
;

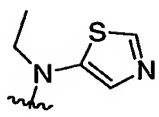
10

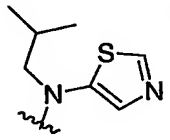
Table 2

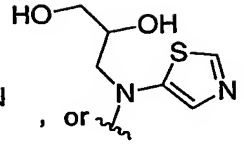


Wherein R represents:



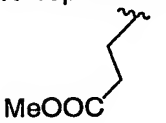
,


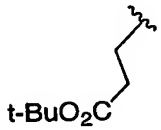
,


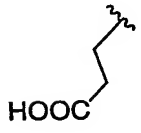
,


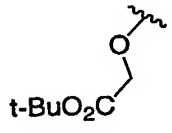
or ;

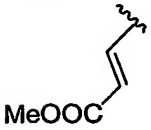
R* represents:

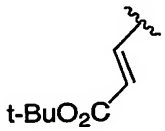


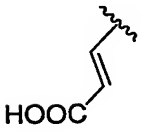
,


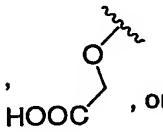
,


,


,


,


,


,


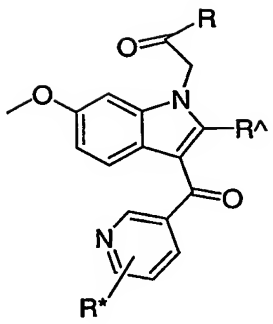
, or hydrogen

and R^ represents hydrogen or methyl ;

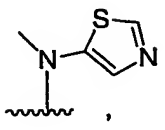
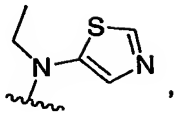
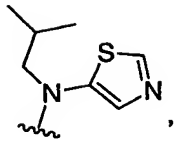
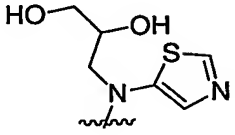
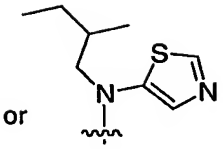
5

Table 3

10



Wherein R represents:

 ,  ,  ,  , or  ;

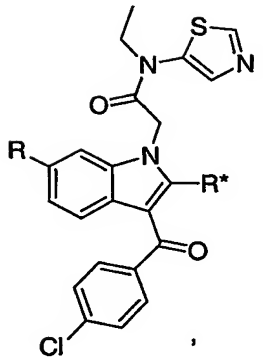
R* represents:

 , or chlorine

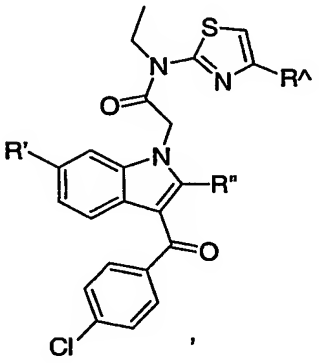
and R^ represents hydrogen or methyl;

5

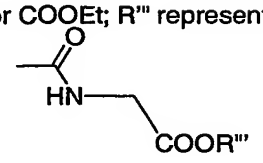
Table 4



R represents methyl or methoxy and R* represents methyl, H or COOH;

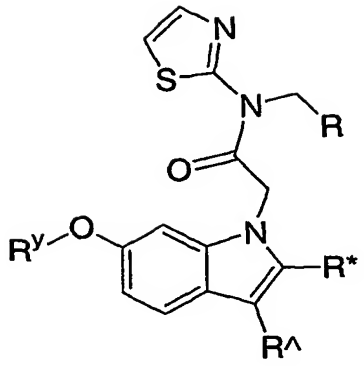


R' represents methyl or methoxy; R^ represents hydrogen or COOEt; R'" represents COOH or COOtBu; ar
R" represents: COOMe, H, COOH, or

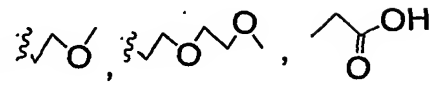


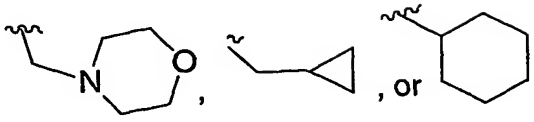
10

Table 5

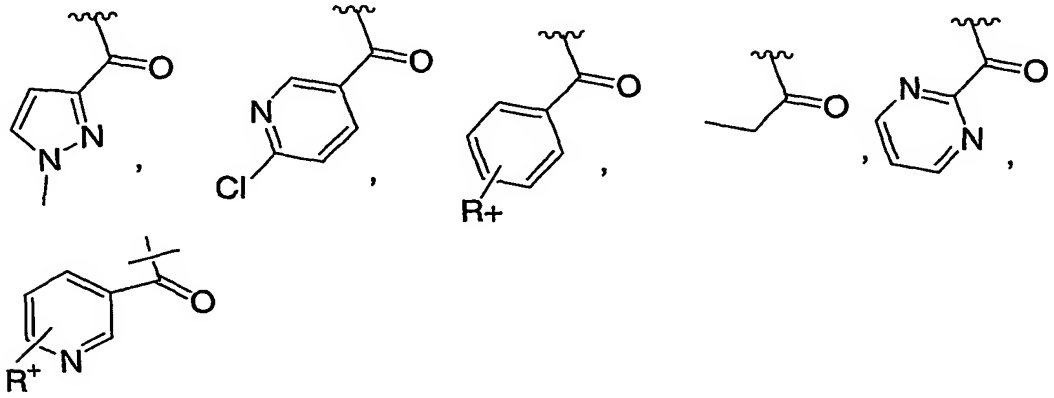


R* represents hydrogen or methyl;

R^y represents methyl or CF_3; 

R represents methyl, $(CH2)_2SCH3$, 

R^ represents:



R+ represents:

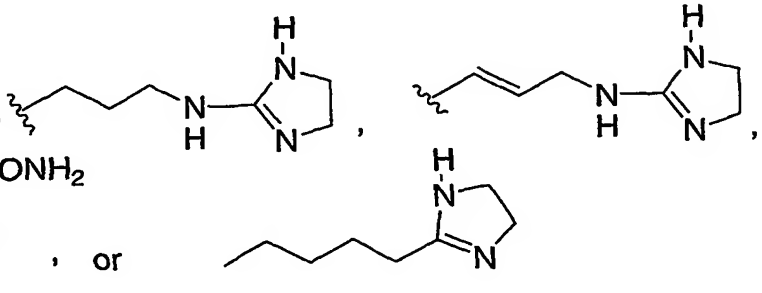
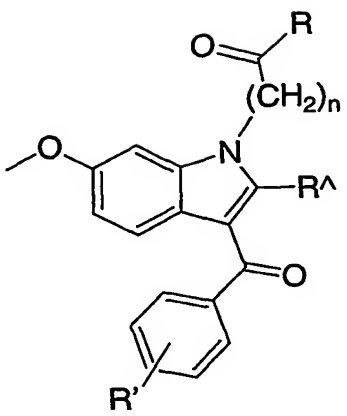
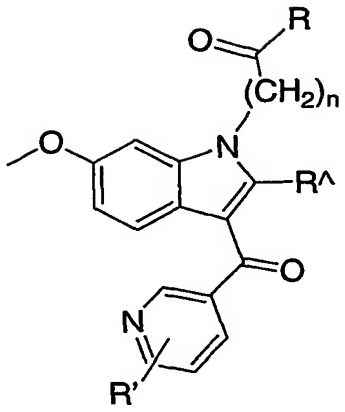
$(CH_2)_2CO_2H$, chlorine, 

Table 6

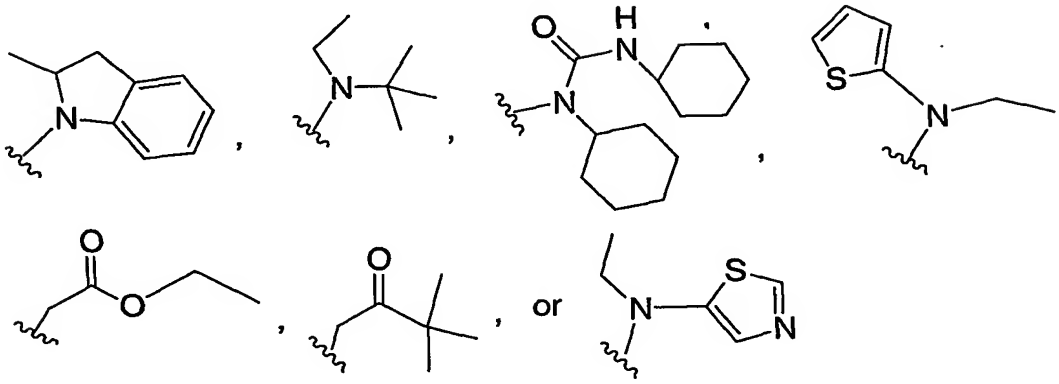




Wherein n represents 1-2;

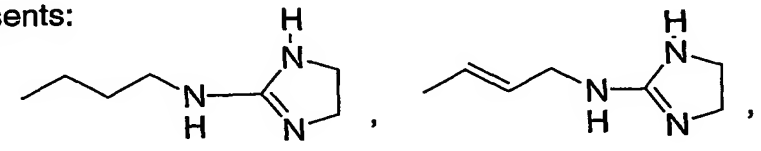
R^ represents hydrogen or methyl

R represents:



and R' represents:

chlorine,



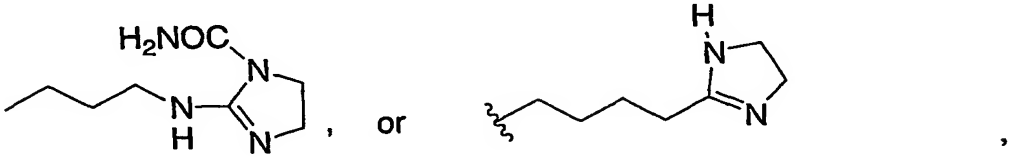
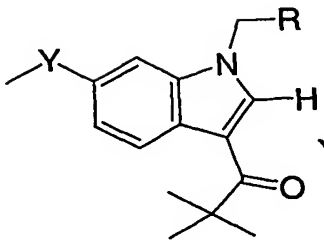
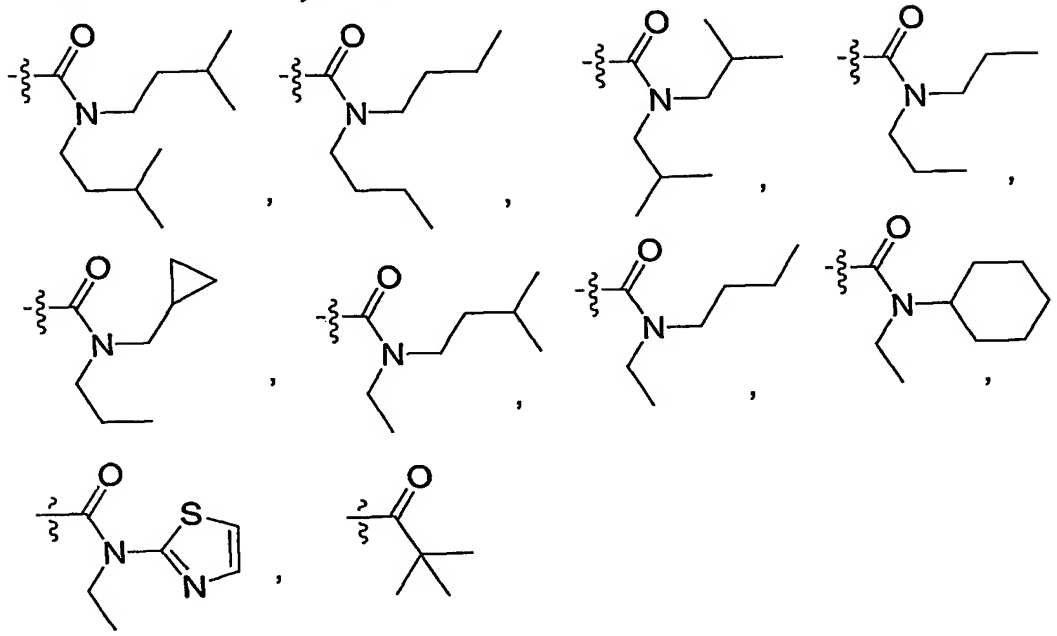


Table 7



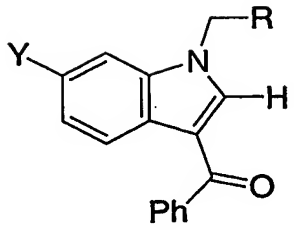
Y=O, or S(O)p, and p=0-2

R is:



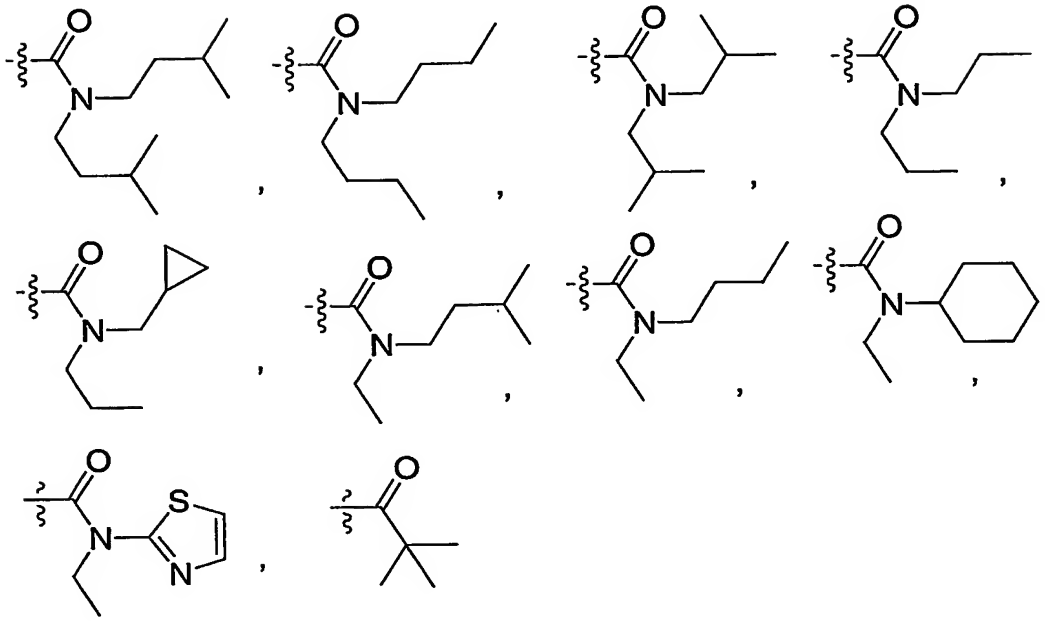
- 92 -

Table 8



Y=OCH_3, Cl, Br, CH_2CH_3, or CN

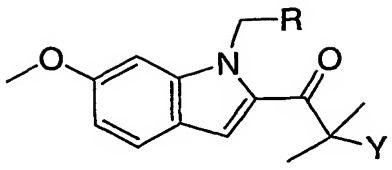
R is:



5

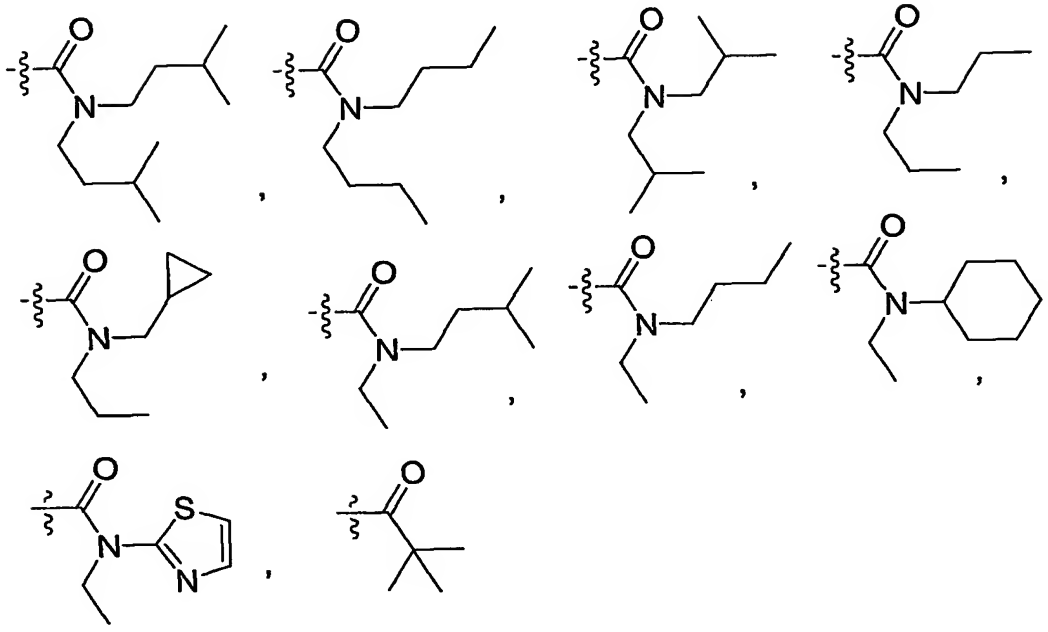
10

Table 9



Y=CH_3 or CH_2CH_3

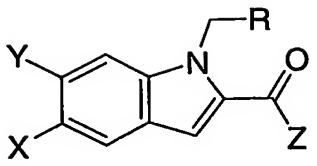
R is:



5

10

Table 10



Y=OCH_3, CN,or Cl; X=H, or F; Z=Ph, $CH(CH_3)_2$, $CH_2CH(CH_3)_2$

R is:

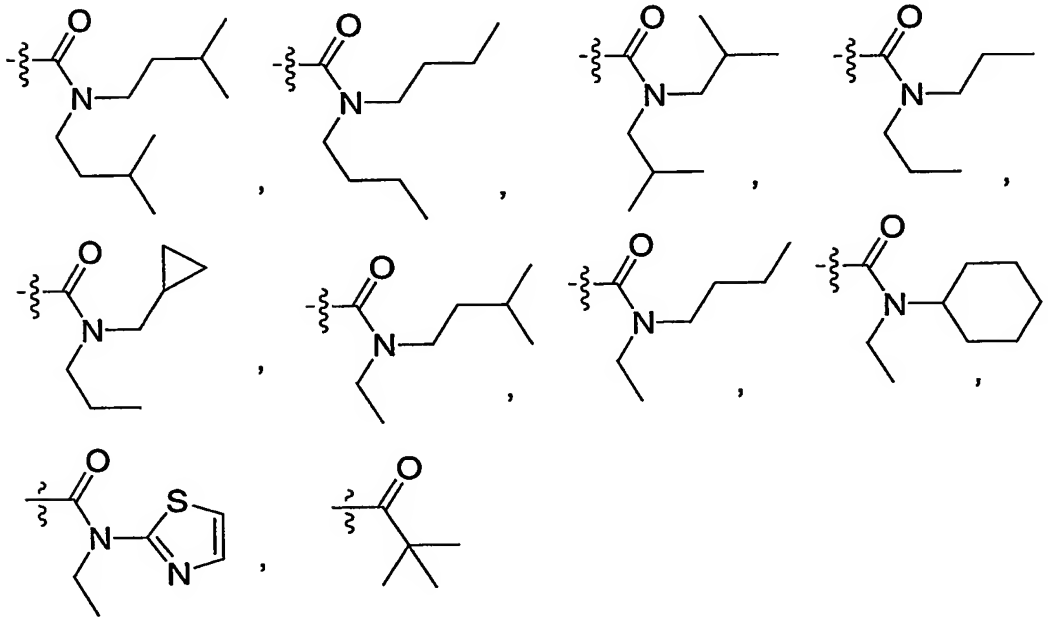
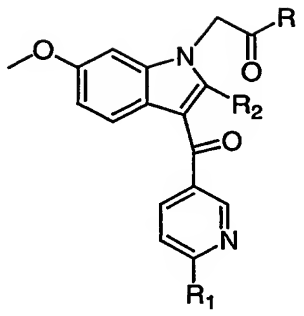
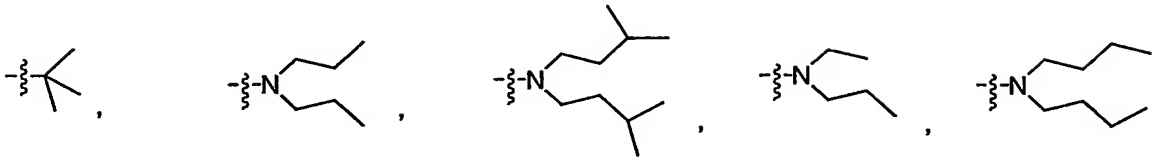


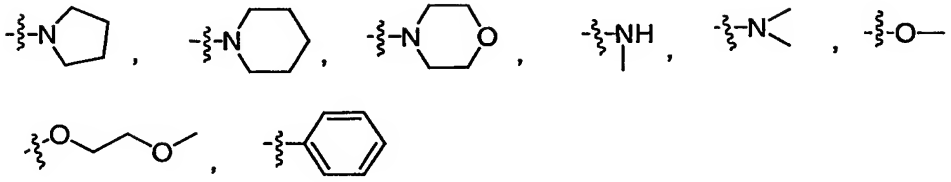
Table 11



Wherein R represents:

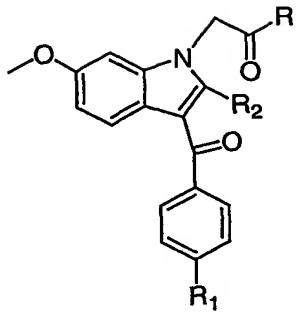


R_1 represents:

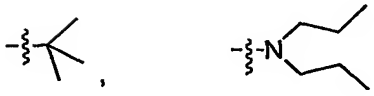


R2 represents: hydrogen or methyl

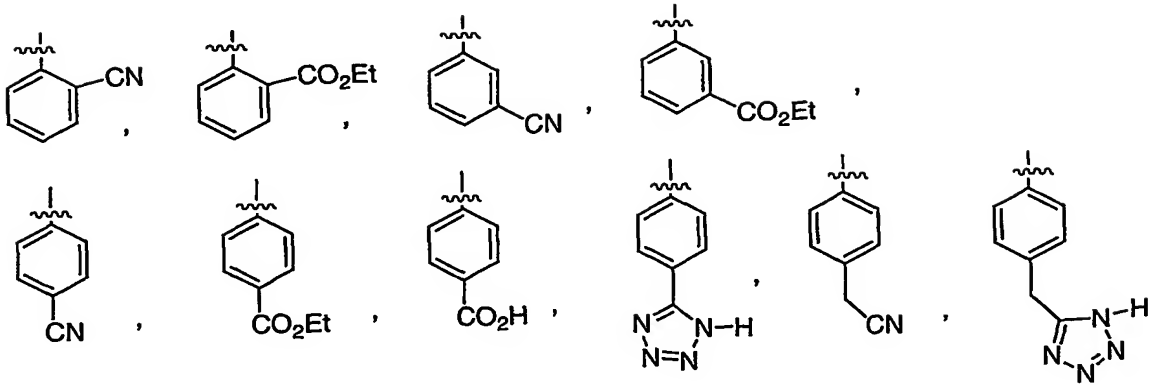
Table 12



Wherein R represents:

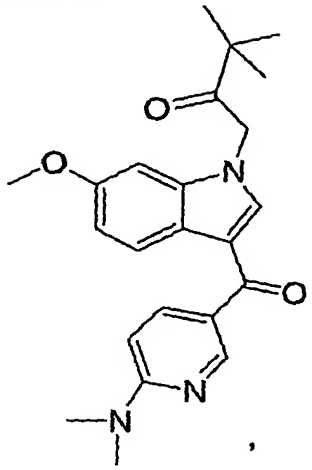
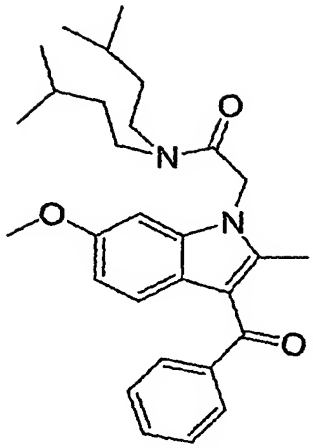
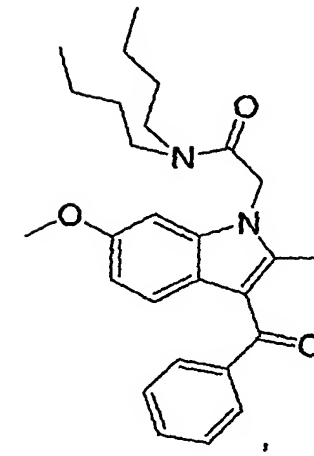
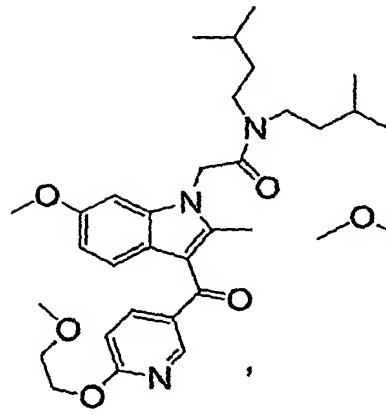
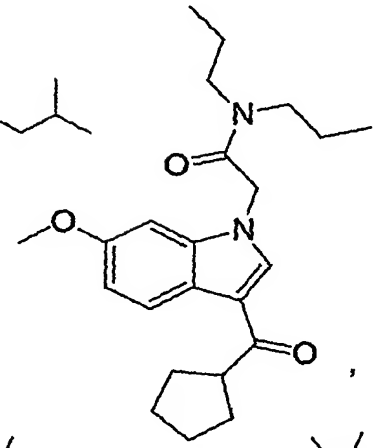
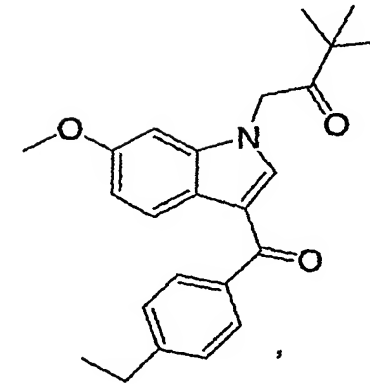
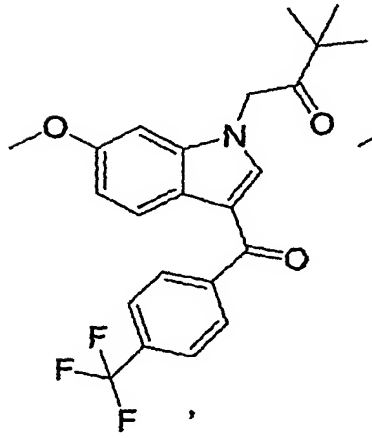
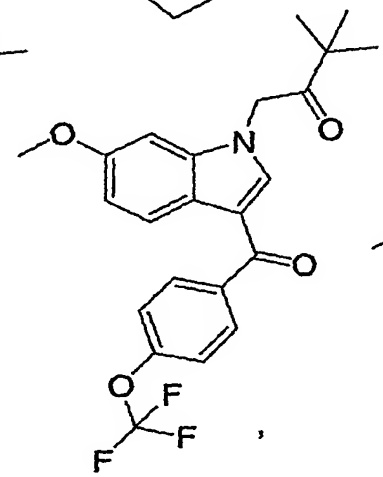
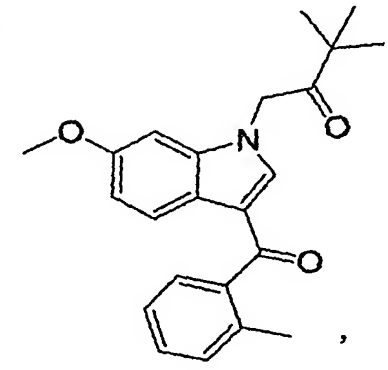


R_1 represents:



R2 represents: hydrogen or methyl

Table 13


,

,

,

,

,

,

,

,


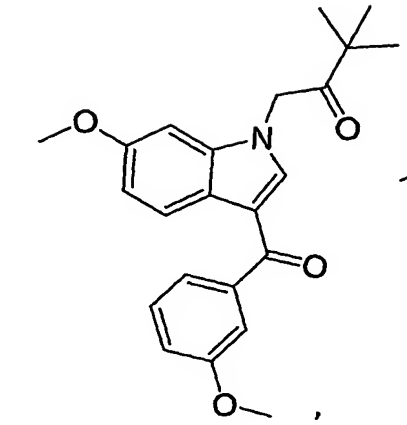
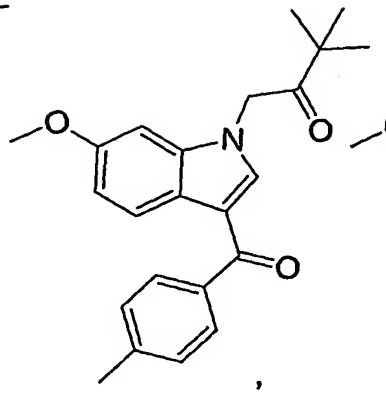
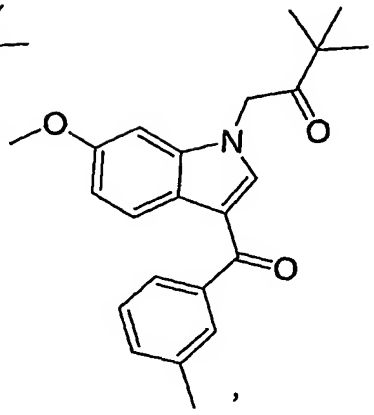
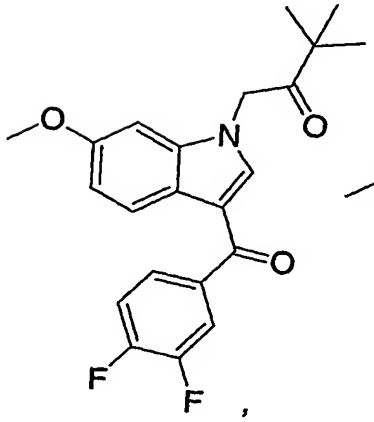
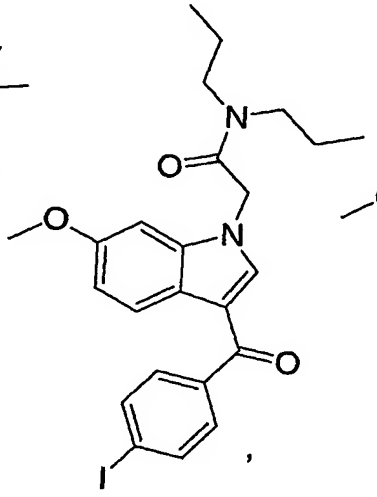
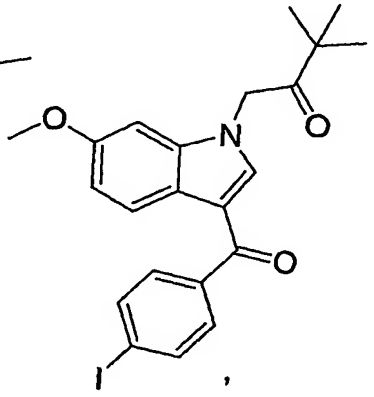
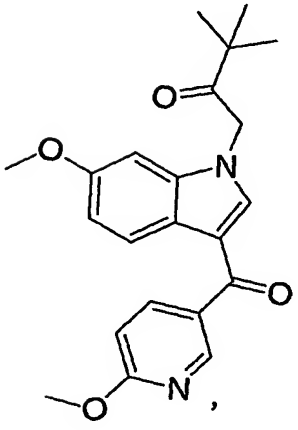
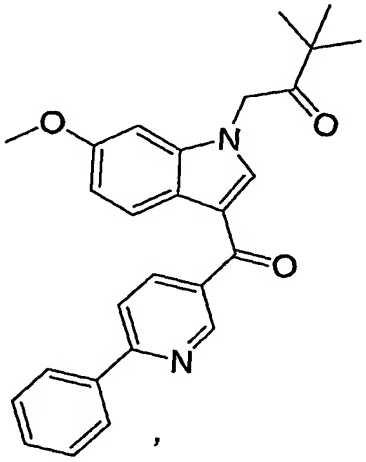
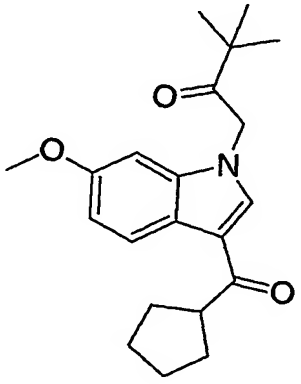
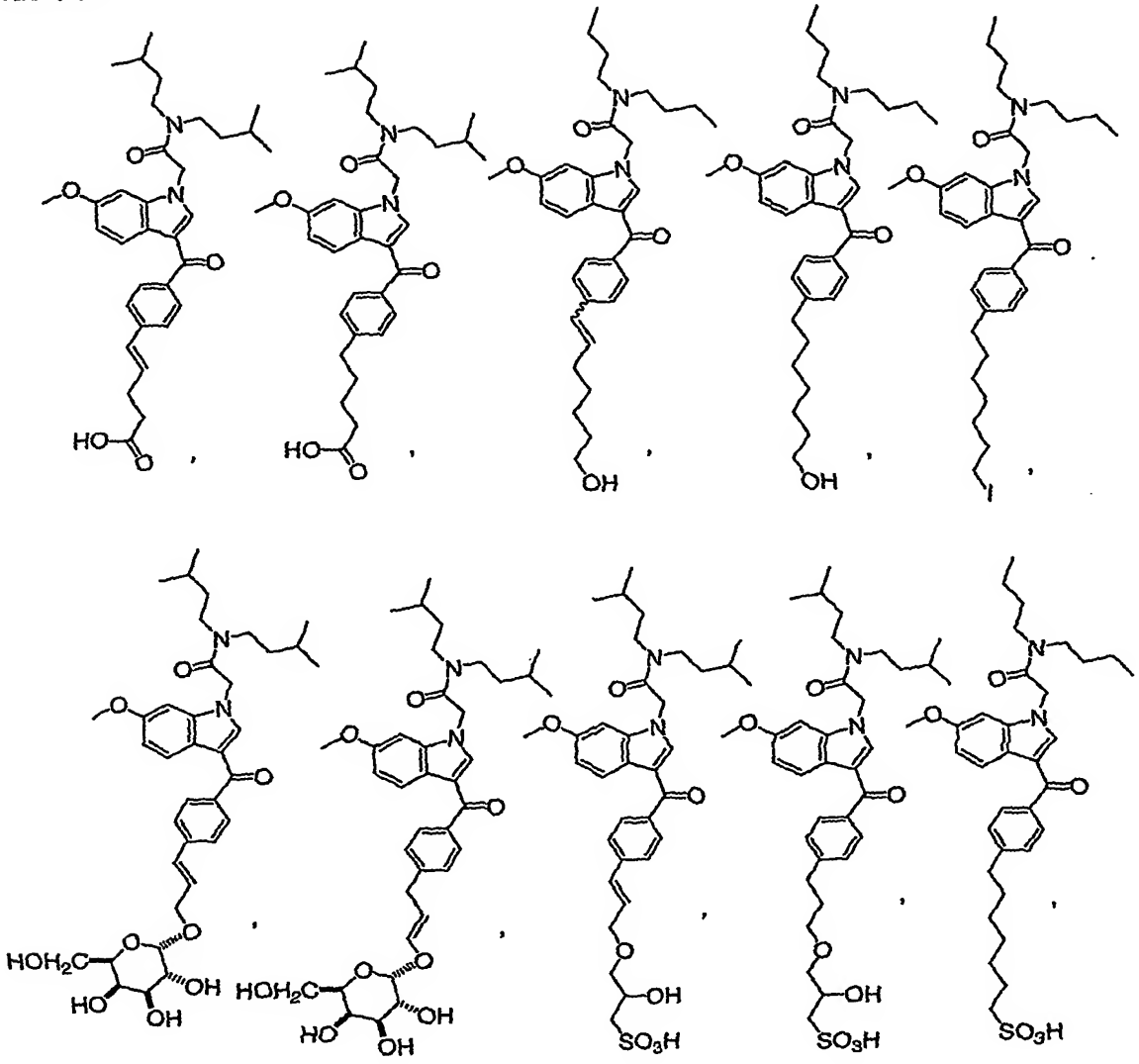
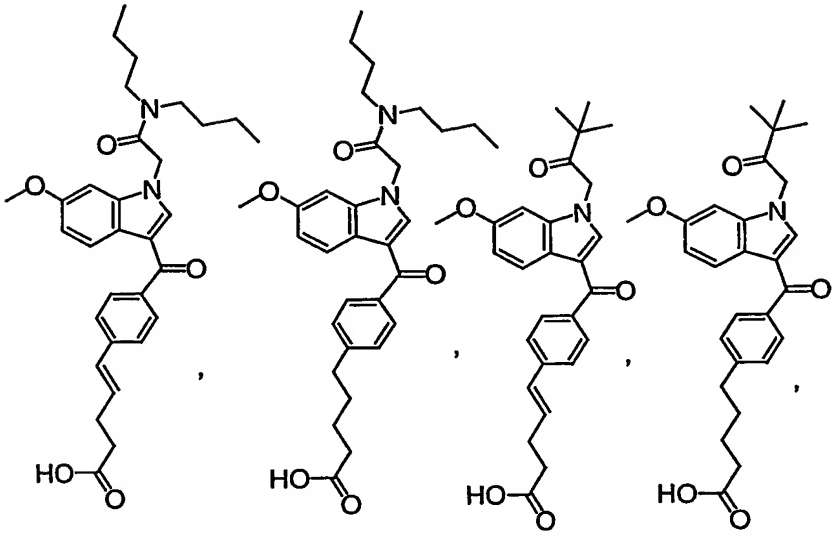

,

,

,

,

,

,

,

,


Table 14





or a pharmaceutically acceptable salt, enantiomer, diastereomer or mixture thereof.

12. A method for treating ocular hypertension or glaucoma comprising administration to a patient in need of such treatment a therapeutically effective amount of a compound of claim 1.

13. The method according to Claim 12 wherein the compound of formula I is applied as a topical formulation selected from solution topical formulation and a suspension topical formulation.

14. A method according to claim 13 in which the topical formulation optionally contains xanthan gum or gellan gum.

15. A method according to claim 13 wherein an active ingredient belonging to the group consisting of: β-adrenergic blocking agent, parasympathomimetic agent, EP4 agonist, carbonic anhydrase inhibitor, and a prostaglandin or a prostaglandin derivative is optionally added to the formulation.

16. A method according to claim 15 wherein the β-adrenergic blocking agent is timolol; the parasympathomimetic agent is pilocarpine; the carbonic anhydrase inhibitor is dorzolamide, acetazolamide, metazolamide or brinzolamide; the

prostaglandin is latanoprost or rescula, and the prostaglandin derivative is a hypotensive lipid derived from PGF2α prostaglandins.

17. A method for treating macular edema, macular degeneration, increasing retinal and optic nerve head blood velocity, increasing retinal and optic nerve oxygen tension, and/or providing a neuroprotective effect comprising administration to a patient in need of such treatment a pharmaceutically effective amount of a compound of claim 1; or a pharmaceutically acceptable salt, enantiomer, diastereomer or mixture thereof.

18. The method according to Claim 17 wherein the compound of formula I is applied as a topical formulation.

19. A method according to claim 18 in which the topical formulation optionally contains xanthan gum or gellan gum.

20. A method of preventing repolarization or hyperpolarization of a mammalian cell wherein the cell contains a potassium channel comprising the administration to a mammal, including a human, in need thereof, of a pharmacologically effective amount of a compound according to claim 1, or a pharmaceutically acceptable salt, enantiomer, diastereomer or mixture thereof.

21. A method of treating Alzheimer's Disease, depression, cognitive disorders, arrhythmia disorders and/or diabetes in a patient in need thereof comprising administering a pharmaceutically effective amount of a compound according to Claim 1, or a pharmaceutically acceptable salt, enantiomer, diastereomer or mixture thereof.